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SLM-05800

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In re Application of:

Robert W. Corrigan et al.

Serial No.: 09/832,738

Filed: April 10, 2001

For: **METHOD, SYSTEM AND
DISPLAY APPARATUS FOR
ENCRYPTED CINEMA**

) Group Art Unit: 2643

) Examiner:

) **TRANSMITTAL LETTER**

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Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: 7-16-03

By: Thomas B. Haverstock
Thomas B. Haverstock
Reg. No.: 32,571

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United States Patents or Published Patent Applications have been filed electronically (EFS ID # 43669); (EFS ID #43671); (EFS ID #43672); (EFS ID #43673); (EFS ID #43674); (EFS ID #43675); (EFS ID #43677); (EFS ID #43678); (EFS ID #43679); (EFS ID #43680); (EFS ID #43682); (EFS ID #43683); (EFS ID #43686); (EFS ID #43688); (EFS ID #43689); and (EFS ID #43690).

Applicants have become aware of the following printed publication which may be material to the examination of this application:

- U.S. Patent No. Des. 334,557;
- U.S. Patent No. Des. 334,742;
- U.S. Patent No. Des. 337,320;
- U.S. Patent No. Re. 16,767;
- U.S. Patent No. Re. 25,169;
- German Publication No. DE 32 33 195 A1;
- German Publication No. DE 43 23 799 A1;
- German Publication No. DE 197 23 618 A1;

- German Publication No. DE 198 46 532 C1;
- European Publication No. EP 0 089 044 A2;
- European Publication No. EP 0 261 901 A2;
- European Publication No. EP 0 304 263 A2;
- European Publication No. EP 0 306 308 A2;
- European Publication No. EP 0 314 437 A1;
- European Publication No. EP 0 417 039 A1;
- European Publication No. EP 0 423 513 A2;
- European Publication No. EP 0 436 738 A1;
- European Publication No. EP 0 458 316 A2;
- European Publication No. EP 0 477 566 A2;
- European Publication No. EP 0 488 326 A3;
- European Publication No. EP 0 499 566 A2;
- European Publication No. EP 0 528 646 A1;
- European Publication No. EP 0 530 760 A2;
- European Publication No. EP 0 550 189 A1;
- European Publication No. EP 0 610 665 A1;
- European Publication No. EP 0 627 644 A2;
- European Publication No. EP 0 627 644 A3;
- European Publication No. EP 0 627 850 A1;
- European Publication No. EP 0 643 314 A2;
- European Publication No. EP 0 654 777 A1;
- European Publication No. EP 0 658 868 A1;
- European Publication No. EP 0 658 830 A1;
- European Publication No. EP 0 689 078 A1;
- European Publication No. EP 0 801 319 A1;
- European Publication No. EP 0 851 492 A2;
- European Publication No. EP 1 003 071 A2;
- European Publication No. EP 1 014 143 A1;
- European Publication No. EP 1 040 927 A2;
- Great Britain Publication No. GB 2 117 564 A;
- Great Britain Publication No. GB 2 118 365 A;
- Great Britain Publication No. GB 2 266 385 A;

- Great Britain Publication No. GB 2 296 152 A;
- Great Britain Publication No. GB 2 319 424 A;
- Japanese Patent Abstract JP 1-155637;
- Japanese Patent Abstract JP 4-333015;
- Japanese Patent Abstract JP 2219092;
- Japanese Patent Abstract JP 3288369;
- Japanese Patent Abstract JP 53-39068;
- Japanese Patent Abstract JP 55-111151;
- Japanese Patent Abstract JP 57-210638;
- Japanese Patent Abstract JP 57-31166;
- Japanese Patent Abstract JP 60-49638;
- Japanese Patent Abstract JP 60-94756;
- Japanese Patent Abstract JP 60-250639;
- Japanese Patent Abstract JP 61-142750;
- Japanese Patent Abstract JP 61-145838;
- Japanese Patent Abstract JP 63-234767;
- Japanese Patent Abstract JP 63-305323;
- Japanese Patent Abstract JP 40-1155637;
- Japanese Patent Abstract JP 7-281161;
- PCT Publication No. WO 90/13913;
- PCT Publication No. WO 92/12506;
- PCT Publication No. WO 93/02269;
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- PCT Publication No. WO 95/11473;
- PCT Publication No. WO 96/02941;
- PCT Publication No. WO 96/08031;
- PCT Publication No. WO 96/41217;
- PCT Publication No. WO 96/41224;
- PCT Publication No. WO 97/22033;

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- PCT Publication No. WO 98/41893;
- PCT Publication No. WO 99/12208;
- PCT Publication No. WO 99/23520;
- PCT Publication No. WO 99/34484;
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- PCT Publication No. WO 99/63388;
- PCT Publication No. WO 99/67671;
- PCT Publication No. WO 00/04718;
- PCT Publication No. WO 00/07225;
- PCT Publication No. WO 01/006297 A3;
- PCT Publication No. WO 01/57581 A3;
- PCT Publication No. WO 02/025348 A3;
- PCT Publication No. WO 02/31575 A2;
- PCT Publication No. WO 02/058111 A2;
- PCT Publication No. WO 02/065184 A3;
- PCT Publication No. WO 02/073286 A2;
- PCT Publication No. WO 02/084375 A1;
- PCT Publication No. WO 02/084397 A3;
- PCT Publication No. WO 03/001281 A1;
- PCT Publication No. WO 03/001716 A1;
- PCT Publication No. WO 03/012523 A1;
- PCT Publication No. WO 03/016965 A1;
- PCT Publication No. WO 03/023849 A1;
- PCT Publication No. WO 03/025628 A2;
- R. Apte, "Grating Light Valves for High Resolution Displays", Solid State Sensors and Actuators Workshop, Ph D. Dissertation, Stanford University (June 1994);
- O. Solgaard, "Integrated Semiconductor Light Modulators for Fiber-Optic and Display Applications", Ph.D. Dissertation, Stanford University February, 1992;

- J. Neff, "Two-Dimensional Spatial Light Modulators: A Tutorial", Proceedings of the IEEE, vol. 78, No. 5 (May 1990), pp. 826-855;
- R. Gerhard-Multhaupt, "Viscoelastic Spatial Light Modulators and Schlieren-Optical Systems for HDTV Projection Displays" SPIE vol. 1255 Large Screen Projection Displays 11 (1990), pp. 69-78;
- R. Gerhard-Multhaupt, "Light-Valve Technologies for High-Definition Television Projection Displays", Displays vol. 12, No. 3/4 (1991), pp. 115-128;
- O. Solgaard, F. Sandejas, and D. Bloom, "Deformable Grating Optical Modulator," Optics Letters, Vol. 17, No. 9, May 1, 1992, New York, USA, pp. 688-690;
- F. Sandejas, R. Apte, W. Banyai, and D. Bloom, "Surface Microfabrication of Deformable Grating Valve for High Resolution Displays," The 7th International Conference on Solid-State Sensors and Actuators;
- P. Alvelda, "High-Efficiency Color Microdisplays," SID 95 Digest, pages 307-311, 1995;
- Worboys et al., "Miniature Display Technology for Integrated Helmut Systems," GEC Journal of Research, Vol. 10, No. 2, pages 111-118, Chelmsford, Essex, GB 1993;
- M. Farn et al., "Color Separation by use of Binary Optics," Optics Letters, Vol. 18:15 pages 1214-1216, 1993;
- P. Alvelda, "VLSI Microdisplays and Optoelectric Technology," MIT, pages 1-93, 1995;
- P. Alvelda, "VLSI Microdisplay Technology," October 14, 1994;
- D. Rowe, "Laser Beam Scanning," SPIE, Vol. 2088, Oct. 5, 1993, 18-26;
- L. Hornbeck, "Deformable-Mirror Spatial Light Modulators," Spatial Light Modulators and Applications III, Aug. 8, CA 1989, pp. 86-102;
- Russick et al., "Supercritical Carbon Dioxide Extraction of Solvent from Micromachined Structures," Supercritical Fluids, Chapter 18, American Chemical Society, pp 255-269, 1997;
- Buhler et al., "Linear Array of Complementary Metal Oxide Semiconductor Double-Pass Metal Micromirrors," Optical Engineering, Vol. 36, No. 5, pp 1391-1398, May 1997;

- Gani et al., "Variable Gratings for Optical Switching: Rigorous Electromagnetic Simulation and Design," Optical Engineering, Vol. 38, No. 3, pp 552-557, March 1999;
- R. Tepe, et al. "Viscoelastic Spatial Light Modulator with Active Matrix Addressing," Applied Optics, Vol. 28, No. 22, New York, USA, pp.4826-4834, Nov. 15, 1989;
- W. Brinker, et al., "Deformation Behavior of Thin Viscoelastic Layers Used in an Active-Matrix-Addressed Spatial Light Modulator," SPIE Vol. 1018, pp. 79-85, Germany, 1988;
- T. Utsunomiya and H. Sato, "Electrically Deformable Echellette Grating and its Application to Tunable Laser Resonator," Electronics and Communications in Japan, Vol. 63-c, No. 10, pp. 94-100, Japan, 1980;
- R.N. Thomas, et al., "The Mirror-Matrix Tube: A Novel Light Valve for Projection Displays", IEEE Transactions on Electron Devices, Vol. ED-22, No. 9, pp. 765-775, September 1975;
- J. Guldberg, et al., " An Aluminum/SiO₂/Silicon-on-Sapphire Light Valve Matrix for Projection Displays," Applied Physics Letters, Vol. 26, No. 7, pp. 391-393, April 1975;
- "Kitchen Computer", IBM Technical Disclosure Bulletin, vol. 37, no. 12, pp. 223-225, December 1994;
- "Image Orientation Sensing and Correction for Notepads", Research Disclosure, no. 34788, p. 217, March 1993;
- Beck Mason et al., "Directly Modulated Sampled Grating DBR Lasers for Long-Haul WDM Communication Systems" IEEE Photonics Technology Letters, Vol. 9, No. 3, March 1997, pp. 377 of 379;
- N. J. Frigo et al., "A Wavelength-Division Multiplexed Passive Optical Network with Cost-Shared Components", IEEE Photonics Technology Letters, Vol. 6, No. 11, November 1994, pp. 1365 of 1367;
- M. S. Goodman et al., "The LAMBDANET Multiwavelength Network: Architecture, Applications, and Demonstrations", IEEE Journal on Selected Areas in Communications, Vol. 8, No. 6, August 1990, pp. 995 of 1004;

- C. A. Turkatte, "Examining the Benefits of Tunable Lasers for Provisioning Bandwidth on Demand", EuroForum - Optical Components, February 2001, pp. 1 of 10;
- R. Plastow, "Tunable Lasers and Future Optical Networks", Forum -Tunable Laser, August 2000, pp. 58 of 62;
- Elizabeth Bruce, "Tunable Lasers", Communications, IEEE Spectrum, February 2002, pp. 35 of 39;
- M. G. Littman et al., "Spectrally Narrow Pulsed Dye Laser without Beam Expander", Applied Optics, Vol. 17, No. 14, July 15, 1978, pp. 2224 of 2227;
- Apte et al., "Deformable Grating Light Valves for High Resolution Displays," Solid State Actuator Workshop, Hilton Head, South Carolina, June 13-16, 1994;
- Sene et al., "Polysilicon micromechanical gratings for optical modulation," Sensors and Actuators, Vol. A57, pp. 145-151, 1996;
- Amm et al., "Invited Paper: Grating Light Valve™ Technology: Update and Novel Applications," SID Digest, Vol. 29, 1998;
- Development of Digital MEMS-Based Display Technology Promises Improved Resolution, Contrast, and Speed", XP-000730009, 1997, pp. 33 of 34;
- S.T. Pai, et al., "Electromigration in Metals", Received June 4, 1976, pg. 103-115;
- Olga B. Spahn, et al., "High Optical Power Handling of Pop-Up Microelectromechanical Mirrors", Sandia National Laboratories, IEEE 2000, pg. 51-52;
- David M. Burns, et al. "Optical Power Induced Damage to Microelectromechanical Mirrors", Sensors and Actuators A 70, 1998, pg. 6-14;
- V.S. Aliev et al., "Development of Si(100) surface roughness at the initial stage of etching in F2 and XeF2 gases: ellipsometric study," Surface Science 442 (1999), pgs. 206-214;
- Xuan-Qi Wang et al., "Gas-Phase Silicon Etching with Bromine Trifluoride," Depart. of Electrical Engineering, 136-93 California Institute of Technology, 1997 IEEE, pgs. 1505-1508;
- Harold F. Winters, "Etch products from the reaction of XeF2 with SiO2, Si3N4, SiC, and Si in the presence of Ion Bombardment," IBM Research Laboratory, 1983 American Vacuum Society, pgs. 927-931;

- F.A. Houle, "Dynamics of SiF₄ desorption during etching of silicon by XeF₂," J. Chem. Phys. 87 (3), 1 August 1987, pgs. 1866-1872;
- Mehran Mehregany, "Microelectromechanical Systems," 1993 IEEE, pgs. 14-22.
- D. Moser et al., "A CMOS Compatible Thermally Excited Silicon Oxide Beam Resonator with Aluminium Mirror," Physical Electronics Laboratory, 1991 IEEE, pgs. 547-550;
- M. Parameswaran et al., "Commerical CMOS Fabricated Integrated Dynamic Thermal Scene Simulator," 1991 IEEE, pgs. 29.4.1-29.4.4;
- M. Parameswaran et al., "CMOS Electrothermal Microactuators," Depart. of Electrical Engineering, 1990 IEEE, pgs.128-131;
- U. Streller et al., "Selectivity in dry etching of Si(100) with XeF₂ and VUV light," Applied Surface Science 106, (1996), pgs. 341-346;
- M.J.M Vugts et al., "Si/XeF₂ etching: Temperature dependence," 1996 American Vacuum Society, pgs. 2766-2774;
- P. Krummenacher et al., "Smart Temperature Sensor in CMOS Technology," Sensors and Actuators, A-21-A-23 (1990), pgs. 636-638;
- Henry Baltes, "CMOS as sensor technology," Sensors and Actuators A. 37-38, (1993), pgs. 51-56;
- Thomas Boltshauser et al., "Piezoresistive Membrane Hygrometers Based on IC Technology," Sensor and Materials, 5, 3, (1993), pgs. 125-134;
- Z. Parpia et al., "Modelling of CMOS Compatible High Voltage Device Structures," pgs. 41-50;
- Jon Gildemeister, "Xenon Difluoride Etching System," 1997, UC Berkeley MicroTabrication Manual Chapter 7.15, pg. 2-5;
- W. Riethmuller et al., "A smart accelerometer with on-chip electronics fabricated by a commercial CMOS process," Sensors and Actuators A. 31, (1992), 121-124;
- W. Gopel et al., "Sensors- A Comprehensive Survey," Vol. 7, Weinheim New York, 44 pgs;
- D. E. Ibbotson et al., "Comparison of XeF₂ and F-atom reations with Si and SiO₂," 1984 American Institute of Physics, pgs. 1129-1131;
- D. E. Ibbotson et al., "Plasmaless dry etching of silicon with fluorine-containing compounds," 1984 American Institute of Physics, pgs. 2939-2942;

- M.H. Hecht et al., "A novel x-ray photoelectron spectroscopy study of the Al/SiO₂ interfaces," 1985 American Institute of Physics, pgs. 5256-52616;
- Daniel L. Flamm et al., "XeF₂ and F-Atom Reactions with Si: Their Significance for Plasma Etching,," Solid State Technology, V. 26, #4, 4/83, pgs. 117-121;
- H.F. Winters et al., "The etching of silicon with XeF₂ vapor," Appl. Phys. Lett. Vol. 34, No. 1, January 1979, pgs. 70-73;
- Wayne Bailey et al., "Microelectronic Structures and Microelectromechanical Devices for Optical Processing and Multimedia Applications," SPIE - The International Society for Optical Engineering, Vol. 2641, October 1995, 13 pgs;
- J. Marshall et al., "Realizing Suspended Structures on Chips Fabricated by CMOS Foundry Processes Through the MOSIS Service," National Inst. of Standards and Technology, Jun 94, 63 pgs;
- David Moser et al., "CMOS Flow Sensors," 1993 Physical Electronics Lab, Swiss Federal Institute of Tech, Zurich, Switzerland, 195 pgs;
- E. Hecht, "Optics", Addison-Wesley, 2nd edition, 1987, Adelphi University, pp. 163-169;
- E. Hecht, "Optics", Addison-Wesley, 2nd edition, 1987, Adelphi University, pp. 358-360;
- T. Glaser et al., "Beam switching with binary single-order diffractive grating", XP-000802142, Optics Letters, December 15, 1998, Vol. 23, No. 24, pp. 1933 of 1935;
- P. C. Kundu et al., "Reduction of Speckle Noise by Varying the Polarisation of Illuminating Beam", XP-002183475, Dept. of Applied Physics, Calcutta University, 1975, pp. 63-67;
- J. W. Goodman, "Some Fundamental Properties of Speckle", XP-002181682, Dept. of Electrical Engineering, Stanford University, 1976, pp.1146-1150;
- Lingli Wang et al., "Speckle Reduction in Laser Projection Systems by Diffractive Optical Elements", XP-000754330, Applied Optics, April 1, 1998, Vol. 37, No. 10, pp. 1770-1775;
- R.W. Corrigan et al., "Calibration of a Scanned Linear Grating Light-Valve, Projection System for E-Cinema Applications", Silicon Light Machines, SID'99, San Jose, CA, 27 pgs, 1999;

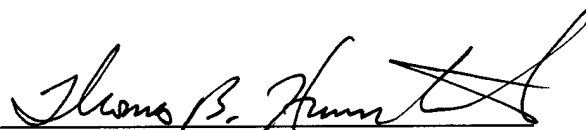
- R.W. Corrigan et al., "Calibration of a Scanned Linear Grating Light-Valve, Projection System", Silicon Light Machines, San Jose, CA, 4 pgs, May 18, 1999;
- "Introduction to Cryptography", <http://www.ssh.fi/tech/crpto/into.html>, 35 pgs, June 21, 1999;
- "Deep Sky Black," Equinox Interscience, www.eisci.com/deepsky.html, 1997;
- "Absorptive Neutral Density Filters," Newport Corp., Irvine, CA, www.newport.com, 5/7/99;
- "High Energy Variable Attenuators," Newport Corp., Irvine, CA, www.newport.com, 5/7/9;
- "Neutral-Density Filters," New Focus, Inc., Santa Clara, CA, www.newfocus.com, 5/7/99;
- J. Hawkes et al., "Laser Theory and Practice," Prentice Hall, New York, 1995, pp. 407-408;
- C. Tew et al., "Electronic Control of a Digital Micromirror Device for Projection Displays", Proceedings of the 1994 IEEE International Solid-State Circuits Conference, 1994;
- Henck, S.A., "Lubrication of Digital Mircomirror DevicesTM", Tribology Letters, No. 3, pp. 239-247, 1997;
- K. W. Goossen et al., "Silicon Modulator Based on Mechanically-Active Anti-Reflection Layer with 1 Mbit/sec Capability for Fiber-in-the-Loop Applications", IEEE Photonics Technology Letters, Vol. 6, No. 9, September 1994, pp. 1119-1121;
- J. A. Walker et al., "Demonstration of a Gain Flattened Optical Amplifier with Micromechanical Equalizer Element", Lucent Technologies, pp. 13-14;
- A. P. Payne et al., "Resonance Measurements of Stresses in Al/Si₃N₄ Micro-Ribbons", Silicon Light Machines, September 22, 1999, 11 pgs;
- M. W. Miles, "A New Reflective FPD Technology Using Interferometric Modulation", 4 pgs;
- N. A. Riza et al., "Digitally Controlled Fault-Tolerant Multiwavelength Programmable Fiber-Optic Attenuator Using a Two-Dimensional Digital Micromirror Device", OPTICS LETTERS, March 1, 1999, Vol. 24, No. 5, pp. 282-284;

- N. A. Riza et al., "Synchronous Amplitude and Time Control for an Optimum Dynamic Range Variable Photonic Delay Line", APPLIED OPTICS, April 10, 1999, Vol. 38, No. 11, pp. 2309-2318; and
- P. Alvelda et al., "44.4: Ferroelectric Microdisplays Using Distortion-Compensated Pixel Layouts", SID 95 DIGEST, XP 2020715, pp. 931-933.

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Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: 7-16-03

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Attorneys for Applicants

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